**Lesson 1**

**Information Technology**

Computers have transformed the way people conduct business transactions and perform their daily tasks. With computers, you can maintain your monthly budget, create business reports, do your project work, listen to music, watch movies, and even create drawings just as you would do on paper.

The growth in the field of computers has lead to development of new technologies for creation, storage, and transfer of data over a group of computers. This group of technologies is collectively called Information Technology (IT).

**Basic Concepts Related To Computers**

A *computer* is an electronic device used to store and process information. It plays a major role in our lives. You use computers in education and research. You also use them for broadcasting news, receiving and sending messages to family and friends, making presentations, maintaining official and personal records, making weather forecasts, and for various other business and recreation activities. By using computers, you save a lot of time, effort, and money

**The Role of Computers**

Computers play a major role in our daily lives. They are used in industries, schools, government offices, and shops. You can use computers to communicate with your family and friends, create a household budget, book travel and movie tickets, or manage your business.

In **business and industry**, you use computers to maintain accounts, create personnel records, track inventory, prepare presentations and reports, manage projects, and communicate by e-mail.

You can use computers to design any type of publication ranging from simple newsletters to fashion magazines, marketing materials, books, or newspapers.

In the field of **education**, trainers can use computers to deliver training through audio-visual learning aids, maintain student records to track performance, search for information on different topics, and create or submit assignments.

In **government** **organizations**, you use computers to organize information by storing and updating records. Computers are also used for providing services to citizens. For example, you can view information on current policies and government issues on a computer.

In the field of **medicine**, doctors use computers to review medical records of patients. Doctors also use computers to find information about the latest drugs available to treat a disease. Doctors can also use computer technology to discuss and share information about various diseases.

You can use computers to view the details of your **bank** **account**. **Traders** use computer technology to get instant information on stock markets, to trade stocks, and to manage investments.

**Scientists** use computers for scientific research, and to gather and analyze information. For example, they use computers to view images from space and to publish information on their recent research.

You can also use computers to **create** **drawings** and **paintings**. **Photographers** use computers to edit and enhance pictures. **Writers** use computers to write content for their books and to also create illustrations. By using computers, writers can make changes in the content easily and save a lot of time.

In the field of **entertainment**, you can use computers to listen to music, watch movies, store and print photographs, send greetings, and play games.

**Parts of a Computer**

**Input Devices**

You use input devices to provide information to a computer, such as typing a letter or giving instructions to a computer to perform a task. Some examples of input devices are described in the following list.

* **Mouse:** A device that you use to interact with items displayed on the computer screen. A standard mouse has a left and a right button. You use the left button to select items and provide instructions by clicking an active area on the screen. You use the right button to display commonly used menu items on the screen.
* **Keyboard:** A set of keys that resembles a typewriter keyboard. You use the keyboard to type text, such as letters or numbers into the computer.
* **Microphone:** A device that you can use to talk to people in different parts of the world. You can record sound into the computer by using a microphone. You can also use a microphone to record your speech and let the computer convert it into text.
* **Scanner:** A device that is similar to a photocopy machine. You can use this device to transfer an exact copy of a photograph or document into a computer. A scanner reads the page and translates it into a digital format, which a computer can read. For example, you can scan photographs of your family using a scanner.
* **Webcam:** A device that is similar to a video camera. It allows you to capture and send the live pictures to the other user. For example, a webcam allows your friends and family to see you when communicating with them.

**Output devices**

You use output devices to get feedback from a computer after it performs a task. Some examples of output devices are described in the following list.

* **Monitor:** A device that is similar to a television. It is used to display information, such as text and graphics, on the computer.
* **Printer:** A device that you use to transfer text and images from a computer to a paper or to another medium, such as a transparency film. You can use a printer to create a paper copy of whatever you see on your monitor.
* **Speaker/Headphone:** Devices that allow you to hear sounds. Speakers may either be external or built into the computer.

**Central Processing Unit (CPU)**

The central processing unit (CPU) is a device that interprets and runs the commands that you give to the computer. It is the control unit of a computer. The CPU is also referred to as the processor.

Memory is where information is stored and retrieved by the CPU. There are two main types of memory.

* **Random Access Memory (RAM):** It is the main memory and allows you to temporarily store commands and data. The CPU reads data and commands from RAM to perform specific tasks. RAM is volatile, which means it is available only while the computer is turned on. The contents of RAM must be copied to a storage device if you want to save the data in the RAM.
* **Read Only Memory (ROM):** It is the memory that retains its contents even after the computer is turned off. ROM is nonvolatile, or permanent, memory that is commonly used to store commands, such as the commands that check whether everything is working properly.

**Motherboard**

The motherboard is the main circuit board inside the computer. It has tiny electronic circuits and other components on it. A motherboard connects input, output, and processing devices together and tells the CPU how to run. Other components on the motherboard include the video card, the sound card, and the circuits that allow the computer to communicate with devices like the printer. The motherboard is sometimes called a system board.

**Expansion Card**

An expansion card is a circuit board that can be attached to the motherboard to add features such as video display and audio capability to your computer. An expansion card either improves the performance of your computer or enhances its features. Expansion cards are also called expansion boards. Some types of expansion cards are described in the following list.

* **Video Card:** It is connected to the computer monitor and is used to display information on the monitor.
* **Network Interface Card (NIC):** It allows the computer to be connected to other computers so that information can be exchanged between them.
* **Sound Card:** It converts audio signals from a microphone, audio tape, or some other source to digital signals, which can be stored as a computer audio file. Sound cards also convert computer audio files to electrical signals, which you can play through a speaker or a headphone. The microphone and the speakers or the headphones connect to the sound card.

**Storage Devices**

You use storage devices to store computer information. Storage devices come in many forms. Some examples are hard drive or disk, CD-ROM, floppy disk, and DVD-ROM. Storage devices can be divided into two types, internal storage devices and external storage devices.

Some common storage devices are described in the following list.

* **Hard Disk:** A magnetic disk that is usually the main storage device on most computers. It can be an external or an internal device.
* **Floppy Disk:** A portable storage device that allows you to store a small amount of data. A disadvantage of this disk is that it can be easily damaged by heat, dust, or magnetic fields.
* **CD-ROM:** A portable storage medium that allows you to store 400 times more data than on a floppy disk. It is less prone to damage than a floppy disk.
* **DVD-ROM:** A portable storage medium that is similar to a CD-ROM; however, it can store larger amounts of data than a floppy disk or a CD-ROM. A DVD-ROM is commonly used to store movies and videos.

**Port**

A port is a channel through which data is transferred between input/output devices and the processor. There are several types of ports that you can use to connect the computer to external devices and networks. Some types of ports are described in the following list.

* **Universal Serial Bus (USB) Port:** You use this to connect peripheral devices such as a mouse, a modem, a keyboard, or a printer to a computer.
* **FireWire:** You use this to connect devices such as a digital camera. It is faster than the USB.
* **Network Port:** You use this to connect a computer to other computers to exchange information between the computers.
* **Parallel Port and Serial Port:** You use these ports to connect printers and other devices to a personal computer. However, the USB is now the preferred method for connecting peripheral devices because it is faster and easier to use.
* **Display Adapter:** You connect a monitor to the display adapter on your computer. The display adapter generates the video signal received from the computer, and sends it to a monitor through a cable. The display adapter may be on the motherboard, or on an expansion card.
* **Power:** The motherboard and other components inside a computer use direct current (DC). A power supply takes the alternating current (AC) from the wall outlet and converts it into DC power.

**USING A COMPUTER**

To turn on a computer, press the power button on the system unit. When you turn on the computer, lights on the keyboard may blink briefly and you may also hear a beep. This is an indication that **the power-on self test (POST)** has started.

The computer performs a sequence of quick tests to check whether the motherboard, memory, hard drive, and other components are working.

If you hear a series of beeps, the monitor may display a message indicating that a component is not functioning. For example, if the keyboard cable is not attached, an error message may report that there is no keyboard detected.

After POST, the computer starts the operating system, and then displays the logon screen. You now log on to the operating system a common example is Microsoft® Windows® XP. The operating system allows you to instruct the computer what to do after you have turned it on.

The operating system controls the computer’s hardware and also manages the computer’s operations and tasks, such as logging on, logging off, and shutting down.

For example, to log on to Windows XP, you need to type your user name and password. The settings for the user account are applied and you are now logged on to Windows XP. After you log on, you can perform various tasks, such as creating a new file or modifying an existing file.

After performing the required tasks, you need to save the changes you made to the file. You can then log off from Windows XP. To log off, you need to click Start, and then click Log Off.

To securely turn off your computer, you must shut down Windows XP. To do this, you need to click Start, and then, at the bottom of the Start menu, click Shut Down. You can end your Windows XP session by clicking the Shut Down Windows dialog box.

If you encounter problems while using the computer, you can choose the Restart option to restart the computer. To do this, click Restart in the Shut Down Windows dialog box.

On most computers, you should never use the actual power button on the front of the system unit to turn off the computer unless it stops responding.

**USING A KEYBOARD**

The keyboard is an input device you use for typing commands or text into a computer.

The different types of keys on a standard keyboard are listed below:

* **Alphanumeric Keys:** These keys are used for entering letters and numbers.
* **Special Keys:** Keys such as Control (CTRL), SHIFT, SPACEBAR, ALT, CAPS LOCK, and TAB are special keys. These special keys perform special functions depending on when and where they are used.
* **Punctuation Keys:** Punctuation keys include keys for punctuation marks, such as colon (:), semicolon (;), question mark (?), single quotation marks (‘ ’), and double quotation marks (“ ”).
* **Command Keys:** Keys such as INSERT (INS), DELETE (DEL), and BACKSPACE are command keys. You use these keys to insert and delete text and objects. You can turn the INSERT key either ON or OFF. When turned ON, the INSERT key helps you overwrite characters to the right of the insertion point. When turned OFF, the INSERT key helps you enter text or characters to the right of the insertion point, without overwriting this text or characters. An insertion point is the blinking vertical line that indicates the location at which the inserted text appears. The DELETE key is used to remove typed text, characters, and other objects on the right side of the insertion point. The BACKSPACE key is used to remove typed text, characters, and other objects on the left side of the insertion point.

**Note:** The function of the DELETE and the BACKSPACE keys may vary depending on the type of computer you are using.

* **ENTER or RETURN Key:** The label on this key can be either ENTER or RETURN, depending on the brand of computer that you are using. You use the ENTER or the RETURN key to move the insertion point to the beginning of a new line. In some programs, it is used to send commands and to confirm a task on a computer.
* **Navigation Keys:** Keys such as the arrow keys, HOME, END, PAGE UP, and PAGE DOWN, are navigation keys. You use the arrow keys to move the insertion point up, down, right, and left. The HOME key is used to move the cursor to the left end of a line of text or the top of a document. The END key, in contrast, moves the cursor to the end of a line or a file, depending on the program. The PAGE UP key is used to move one page up and the PAGE DOWN key is used to move one page down while viewing a document. The functions of PAGE UP and PAGE DOWN keys differ from program to program.
* **Function Keys:** Keys labeled from F1 to F12 are function keys. You use them to perform specific functions. Their functions differ from program to program. The function of the F1 key in most programs is to access the help file associated with a program. Some keyboards may have fewer function keys.
* **Numeric Keypad:** Not all keyboards have a numeric keyboard. If available, this is a separate set of keys with numbers from 0 to 9, the decimal point, special characters, and navigation symbols. The NUM LOCK key on this keypad allows you to switch between the numeric and the navigation keys.
* **Windows Key:** The key between the CTRL key and the ALT key is the Windows key. It has the Microsoft Logo or the Windows flag. This key is used to open the Start menu, or is used in combination with a second key to perform common Windows tasks. The exact use of the Windows key may vary from program to program.

**Note:** Different keyboards have different key layouts. Therefore, the features of the keys may differ.

**Using a Mouse**

A mouse is a small device that you can use to move, select, and open items displayed on your monitor.

The mouse is usually kept on the desk next to the keyboard. Most mouse devices have at least two buttons, left and right. Most of the actions are performed by clicking the **left** **button**.

The **right** **button** is used for specific functions. Some advanced types of mouse devices provide additional buttons to speed up common tasks, such as scrolling text.

As you move the mouse on your desk, a pointer moves correspondingly on your screen. The mouse allows you to select an item on the screen.

As you move the pointer over different areas of the screen, the items or the pointer change. These changes indicate that you can click an item to open it, or see more of its options.

You can open an item by moving the pointer to it, and clicking the left mouse button twice.

In a document, you can use the mouse to select a position to start typing.

You need to position the pointer in the document, click where you want to insert text, and then use your keyboard to begin typing.

To move an item, you need to click it, and then holding the mouse button down, move the item to a different location. After you move the item to the new location, you release the mouse button.

The right button on the mouse is used to display a menu. The options on this menu include the most common tasks, such as copying text from one location and pasting it to another location. These are called context-sensitive menus. These menus help you complete tasks quickly.

Most mouse devices also have a **wheel** that help you to scroll through documents or pages.

To scroll, place your finger on the wheel and roll it back and forth. This moves the document up and down.

There are different types of mouse devices available in the market. A regular mouse has a rubber or a metal ball on the underside.

The mechanical movement of the mouse device moves the ball. This movement further moves the pointer on the screen.

A **trackball** is like a regular mouse, but upside down, with the ball on the top. It allows you to have the same control as a mouse in a confined space.

You can use the thumb or the finger to move the trackball to move the pointer.

An **optical** **mouse** can be used in the same way as a regular mouse. However, it does not have a ball. It uses a laser to detect movement.

**Lesson 2**

**COMMON COMPUTER TERMINOLOGY**

**Introduction**

An automobile, such as a car or a van, is available in different models and colors, but its essential components remain the same. All automobiles have an engine, a body, and wheels. Similarly, computers are available in various sizes and shapes, but they all have common components that work in the same manner.

The essential components of a computer are hardware and software. In this lesson, you will learn about common computer terminology, such as hardware, software, data, and network.

Lesson Objectives

After completing this lesson, you will be able to:

* Identify the primary hardware components of a computer.
* Define an operating system and its role.
* Define the term program.
* Explain what is meant by data.
* Define the term network, and identify the benefits of networking.
* Define the term Internet.

**Hardware**

Hardware refers to all the physical components of a computer. It includes all input devices, processing devices, storage devices, and output devices. The keyboard, mouse, motherboard, monitor, hard disk, cables, and printer are all examples of hardware.

You use hardware to provide input to a computer and also to get the desired output. For example, when you play a musical instrument, such as a piano, you provide input by pressing the keys and get the desired output in the form of music. Similarly, computers also need input and output devices to perform tasks.

You use a keyboard and a mouse to provide input and to select and run programs. You can view the output on a monitor that is similar to a television set, or use the printer to view the output on paper.

Apart from input and output devices, a computer uses processing devices to work on the input data and generate the desired output. The most important processing device is the CPU. The CPU is the brain of the computer. It processes the input to perform calculations and produce output.

A motherboard is a large circuit board that connects input, output, and processing devices. The motherboard circuits provide pathways that allow data to pass through these various components. It also contains chips that determine how, when, and where data can flow through the computer.

Depending on the task that you want your computer to perform, you can choose the appropriate hardware. For example, you can use a NIC to connect your computer to other computers. You can also use expansion cards, such as video cards, to add new features or enhance the performance of your computer. All of these devices are plugged into the motherboard.

**Operating System**

In addition to hardware, a computer needs software to function. Software sends instructions to the hardware to perform the necessary tasks.

The most important software on the computer is the *operating system*, which controls and manages the hardware connected to your computer. The operating system provides an interface that helps you to interact with the computer. An example of one of the latest operating systems is Windows XP.

A user interface can be either text-based or graphics-based. Most operating systems provide a graphical user interface (GUI), which displays images and pictures that allow you to interact with a computer easily.

An operating system with a GUI provides an easy-to-use interface to help you install hardware or software. For example, Windows XP provides a setup wizard, which guides the user through each step of a particular task, such installing hardware or software.

An operating system ensures that your computer is functioning properly. You need to update your operating system regularly to ensure that it is compatible with any new hardware that you install.

**Programs**

The hardware and the operating system together are referred to as a *platform*. *Programs*, also called applications, use this platform to perform tasks. There are many types of programs. Some programs allow you to perform tasks such as writing letters, doing calculations, or sending e-mail messages. For example, a word processor, such as Microsoft® Office Word 2003, is a program that helps you create a letter.

Other programs allow you to create illustrations, play games, watch movies, or communicate with other computer users.

**Data**

Programs process data that you provide as input to your computer. This data can be in the form of text, graphics, audio, or video depending on the type of program. For example, Calculator is a program that requires input in the form of numbers. Similarly, Sound Recorder is a program that requires input in the form of audio.

When the program receives the data, it processes the data and displays the output on the screen. You can save this output in a file. Depending on the type of data that a file contains, the file is classified as an audio file, a text file, a graphics file, or a video file.

**Network**

Consider a scenario where an organization has 10 employees. These employees use computers to perform daily tasks. They also need print data frequently. Instead of giving each employee a printer, which would be expensive, all computers can be connected to a single printer.

You can connect your computer to other computers to share information and hardware components. A group of computers and associated devices that are linked together to facilitate sharing information is called a network. Networks can also be used to share data and devices such as printers.

A network offers many advantages for the computer connected to it. In addition to sharing hardware and software, you can share files and communicate with other computer users on the network. A typical network has the following three components:

Server: The main computer on a network that provides services to other computers on the network. A server decides which computers are allowed to access the hardware and software on the network.

Workstation: A computer connected to a network. You use a workstation to access the hardware and software on a network.

Communication channel: A path or link that connects computers or peripheral devices, such as printers and disk drives, to transfer information. Cables are commonly used as communication channels in a network, but networks can also transfer information through wireless connections.

A network expands as more workstations and servers are connected to it. Depending upon the area covered, a network can be categorized as a local area network (LAN) or a wide area network (WAN).

**Types of Networks and their features**

1. A LAN connects devices within a limited area, such as a home or a small group of offices. It commonly includes computers and shared resources such as printers and scanners.
2. A WAN is a network that connects devices in geographically separated areas. You can use the resources of a WAN to connect two or more LANs by using long wires, optical cables, and satellites. Many organizations use a WAN to connect their networks across different countries. The Internet is an example of a WAN.

**The Internet**

The Internet is a worldwide collection of public networks that are linked to each other for information exchange. The Internet started as a network to facilitate communication between government and educational departments in the United States.

When other networks were connected to this network, it became a vast medium for exchanging information and ideas.

Today, the Internet connects many commercial, government, and educational networks, as well as individual computers, which share data.

The Internet offers a range of services to its users, such as file transfers between Internet users and electronic mail for sending messages.

The World Wide Web (WWW), or the Web, is another service that the Internet provides. The Web includes specially formatted documents that are interlinked and stored on servers around the world.

You can use the Internet and its services to send messages to other Internet users, search and apply for jobs, watch movies, and buy and sell products.

Many organizations use a special type of network to communicate and share information within the organization. Such a network is called an **intranet**.

An intranet is similar to the Web but is accessible only to authorized users of the organization.

An intranet is much smaller than the Internet and can provide services such as document distribution, software distribution, access to databases, and training.

**Lesson 3**

**COMPUTER PERFORMANCE AND FEATURES**

**Introduction**

Consider a situation where you want to buy a television. There are many brands and models available in the market. You need to make a decision based on the features that you want and the price of the product. Similarly, there are different types of personal computers available in the market. They differ on the basis of features such as price, size, and speed. In addition, these factors affect the overall performance of the computer.

After you buy a television, you need to choose from different kinds of channels that are available. These channels may offer entertainment, sports, or news. You can choose to view a channel based on your preferences. In the same way, after you start using a computer, there are different types of programs available that help you perform different tasks. You can use a word processor to create documents or a spreadsheet to perform mathematical calculations. Communications programs can help you talk to people at distant locations. With entertainment programs, you can watch movies, listen to music, or play games.

**Lesson Objectives**

After completing this lesson, you will be able to:

* Identify and compare the features of different types of computers.
* Explain the role of memory.
* Explain the basics of computer performance and how it relates to productivity.
* Describe the different types of productivity programs and their uses.
* Describe the different types of communications programs and their uses.
* Describe the uses of educational and entertainment programs.

**Types of Computers**

Different types of computers are available in the market today. The most common computer is the *Personal Computer (PC)*, typically used by individuals and small businesses. A personal computer is a computer that is designed for use by one person at a time. A personal computer is used in the workplace to create documents, manage business records, and communicate with others. It is used in schools to teach lessons, research over the Internet, and work on assignments. You can also use a personal computer to play games, view videos, and listen to music. Depending on the size and the purpose of a personal computer, it can be categorized into four different types: desktop, laptop, handheld, or tablet.

You select a computer depending on the tasks that you want it to perform. For example, if you want to use the computer to edit photos or play complex games, you need a computer with a fast CPU and a good display adapter.

1. **Desktop computers** are made up of individual components, such as a monitor, a keyboard, a system unit, and a printer. Desktop computers are not portable and are generally placed on the surface of a desk or a table. The components of desktop computers can easily be replaced or upgraded.

Desktop computers usually have more memory, a larger hard drive, more ports, and a bigger display than laptops and other portable computers. Desktop computers can run continuously for long periods of time.

1. **Laptop computers** are lightweight personal computers. Laptop computers are smaller in size as compared to a desktop computer and are designed for travel. Laptop computers are also called notebook computers.

The main feature of laptop computers is that they are small and portable. As the name suggests, these can easily be placed on the lap of a user. Desktop computers run on electricity only, while laptop computers run on electricity or on batteries that can be recharged. However, laptop computers consume more power than desktop computers with a similar hardware setup. Laptop computers perform the same tasks as desktop computers, but laptop computers generally cost more than desktop computers.

1. Handheld computers are devices used for specific everyday tasks, such as managing personal data. These are smaller than laptops and provide fewer features compared to desktop computers or laptops. These can also perform basic word-processing activities and help you access the Internet. Several handheld computer models can also work as cellular phones or digital cameras.
2. Tablet computers are fully functional computers that allow you to write directly on the screen by using a tablet pen. You can also use the tablet pen to perform mouse functions. Tablet computers, therefore, do not need a keyboard and a mouse.

**The Roles Of Memory**

When a computer performs a task, it requires a place to store data. Memory is a device where information can be stored and retrieved. Before buying software for your computer, you need to know if your computer has enough memory to run the software properly. Computer memory can be **Random Access Memory (RAM)** or **volatile** and **Read-Only Memory (ROM) or Nonvolatile**.

* **Random Access Memory (RAM)** or **Volatile Memory:** This is the temporary memory of a computer. The content stored on the temporary memory is erased when the computer is turned off. Random access memory (RAM) is an example of volatile memory. RAM stores program information and data that needs to be readily available while performing a particular task.
* **Read-Only Memory (ROM**) or **Nonvolatile Memory:** The content stored on this type of memory is retained after the computer is turned off. An example of nonvolatile memory is read-only memory (ROM), which contains a set of instructions that need to remain unchanged for the computer to function. For example, ROM stores commands that check whether the motherboard, memory, hard drive, and other components are working when the computer is started.

In a computer, ROM stores information that is permanent and does not change. However, sometimes this information may need to be changed or updated. For this reason, a device called *flash memory* was developed. Similar to ROM, flash memory can retain information after you have switched off a computer, but it provides an additional benefit of allowing the stored information to be erased or modified.

The information stored in the computer is internally represented in the form of 0s and 1s. Each 0 or 1 is called a *bit*. A combination of eight bits is called a *byte*. The following explains the various terms used to measure storage or memory capacity.

* A **bit** is the smallest unit of information that a computer handles. A single bit can hold only one of two values, 0 or 1. One of the two values is always present. A single bit conveys little meaningful information. However, you can obtain more meaningful information by combining consecutive bits into larger units.
* A **byte** is a combination of eight bits arranged in a particular sequence. Each sequence represents a single character, symbol, digit, or letter. A byte forms the basic unit that is used to measure the storage capacity of a storage device.
* One **kilobyte (KB**) is equal to 1,024 bytes. Most of the user data stored in a computer, such as simple e-mail messages or a text file, occupies storage space of a few kilobytes.
* One **megabyte (MB**) is equal to 1,024 KB. The amount of information contained in 1 MB is approximately equal to a complete textbook.
* One **gigabyte (GB**) is equal to 1,024 MB, which is approximately a billion bytes. Most computers today have hard disks with large capacities that are measured in gigabytes. A GB denotes a huge storage capacity. For example, a video film stored on a computer can occupy more than 1 GB of space
* One **terabyte** is equal to 1,024 GB, approximately a trillion bytes. Storage devices having capacities in terabytes are generally used by organizations that need to store large volumes of data. A terabyte is so large that a few terabytes of memory space can contain the complete text of a large number of books.

**Computer performance**

Whether you use your computer for business or for personal use, it is important that your computer perform efficiently. However, performance does not depend on a single factor. The following are some of the important factors that affect the overall performance of the computer

***CPU Speed***

The CPU is the brain of the computer and its speed is an important factor that affects the overall performance of the computer. The CPU speed is the rate at which the CPU can perform a task, such as moving data to and from RAM, or performing a numerical calculation. If you have two computers that are identical except for the CPU speed, the computer with the faster CPU completes a task more quickly.

***Hard Disk Factor***

Hard disks differ in storage capacities as well as their speed of data storage and retrieval. If the speed of data retrieval is fast, the computer takes less time to start and to load programs. Additionally, the speed and size of the hard disk play an important role when a program needs to process large volumes of data.

***RAM Size***

RAM is the active memory of the computer. The speed of retrieving data stored on RAM is very fast and for this reason the computer uses it to store the information that is currently in use. If the amount of RAM is large enough to hold all of the information in use, this can result in faster computer performance. The RAM speed and the amount of RAM are important factors in personal computer performance. When there is not enough RAM in a computer, the computer slows down or fails to function properly.

**Programs**

You can use different computer programs to perform a variety of tasks. You can use computer programs to organize numbers, write letters or proposals, maintain records, create and modify images, convert text into visuals, and create magazines and brochures.

The listsbelow shows the different types of programs and describes their uses

1. ***Word-Processing and Publishing Programs***

You use word-processing programs to create and modify text-based documents. You can type in and modify text, use the spelling checker and the built-in thesaurus, and format the document. By using these programs, you can also create personal and professional documents.

Word is a commonly used word-processing program.

Publishing programs are used to combine text and graphics to create documents such as brochures, greeting cards, annual reports, books, or magazines. These programs also include word-processing and graphics features that allow you to refine parts of the document.

1. ***Presentation Programs***

You use presentation programs to present your information in the form of slides. You can add sound and pictures to these slides to make them more attractive and informative.

Microsoft Office PowerPoint® 2003 is a commonly used presentation program.

1. ***Spreadsheet Programs***

You use spreadsheet programs to create budgets, manage accounts, perform mathematical calculations, and convert numerical data into charts and graphs. Spreadsheets store information in a table, with values spread over horizontal rows and vertical columns. Each value is stored in a cell. A cell is the intersection of a row and a column.

Microsoft Office Excel® 2003 is an example of a spreadsheet program.

1. ***Database Programs***

You use database programs to store and manage data in an organized way. By using these programs, you can also sort or search for the information stored in a database. In addition, you can create simple reports from the data that you have stored. For example, you can use a database program to store customer details, create and manage inventory, and track sales. You can then create reports to target sales or plan customer services.

An example of a database program is Microsoft Office Access 2003.

1. ***Graphics Programs***

You use graphics programs to create and edit drawings. You can also use these programs to enhance photographs.

Microsoft Paint is an example of a graphics program that allows you to create drawings.

**Communication Programs**

Computers use special programs called communication programs that allow you to send and receive messages with other people in a digital format.

**Types of communication programs and their uses.**

1. **Programs used to send e-mail messages**

Sending e-mail messages is the exchange of messages from one computer user to another computer user. This exchange can be within a local area or from one part of a country to another. You can send an e-mail message to or receive an e-mail message from one or several persons at any time of the day.

Sending an e-mail message is similar to making a phone call; you must have a phone connection and know the phone number of the person with whom you want to speak.

To send an e-mail message you must have an Internet connection and an e-mail account. This Internet connection is provided by an Internet service provider (ISP).

If you have an e-mail account, it will be similar to username@example.com, where the username is your name. The @ is the at sign and example.com is the domain name. A domain name identifies the name and type of organization with whom you have an e-mail account.

After you have an e-mail account, you need to know the e-mail account of the person to whom you want to send an e-mail.

You can send both text and pictures through e-mail; however, this depends on various factors, such as the type of service you have or the kind of picture you are sending.

Sending and receiving e-mail messages is an instant way of communicating with anyone. It only takes a few seconds to send and receive an e-mail. This also depends on the speed of your Internet connection.

1. **Programs used to chat**

Another type of communication is through chat programs, which allows you to send and receive messages immediately. You can use a chat program to communicate with several people at the same time. A commonly used communication program is MSN® Messenger.

When you are chatting with someone, the person on the other end receives your messages immediately.

Through chat you can also talk to the person you are chatting with. This is called voice chat.

Another form of chatting allows you to also see the person you are talking to. You use a device called a webcam to do this.

You can also share pictures and other files through MSN Messenger.

**Educational and Entertainment Programs**

Educational software is used in classrooms, offices, and homes. Educational software is available on various topics that are applicable to different age groups. For example, Microsoft Encarta® is a widely used digital encyclopedia that is available on both CD-ROM and DVD-ROM.

You can also use computers as a source of entertainment. You can use entertainment software to play games, listen to music, record music, draw pictures, and watch movies on a computer. Video CDs and DVDs that allow you to watch movies and music videos as well as listen to music are all examples of entertainment software that is used for recreation

**Lesson 4**

**COMPUTER OPERATING SYSTEM**

**Introduction**

The operating system is the most important program in the computer. An operating system performs four primary functions. It manages and controls the hardware connected to a computer. It helps other programs running on a computer to use the hardware. It helps you organize and manage files and folders on the computer. It provides a user interface that allows you to interact with the hardware, the operating system itself, and other programs.

Examples of operating system are Windows XP, Linux, and Macintosh.

**Lesson Objectives**

At the end of this lesson, you will be able to:

* Explain the common functions of an operating system.
* Identify the basic components of the Windows XP user interface.
* Work with the Windows XP user interface within programs.
* Manage files and folders in Microsoft® Windows® Explorer.
* Perform basic file operations.

**Introduction to Operating Systems**

An operating system controls how programs work with each other and how they interact with the computer hardware. It also creates the file system that determines how your data is stored within a storage device.

The performance of an operating system depends on the number of bits that it can transfer at a time. Early operating systems could transfer only 8 bits of data at a time and were called 8-bit operating systems. However, with the introduction of the GUI interface, 16-bit operating systems were developed. Currently, operating systems such as Windows XP are 32-bit operating systems. The newest operating systems, such as Microsoft® Windows® XP Professional x64 Edition, can transfer up to 64 bits at a time, which enables programs to run much faster.

An operating system such as Windows XP provides a GUI that makes it easier for you to give instructions to a computer. The following describes the functions of an operating system.

1. ***Provides a user interface***

Many operating systems provide visual elements, such as icons and menus, to help you interact with a computer. You can use a mouse to select icons and issue commands. For example, you can double-click a file to open it with the appropriate program.

1. ***Provides utilities to configure your system***

A GUI-based operating system provides easy-to-use utilities to help you configure your computer. These utilities are small programs that help you perform specific functions, such as connecting to a network, managing resources, and adding new programs to your computer. For example, Windows XP provides a backup program to save your important data. In addition, it provides a user-friendly setup wizard that allows you to install hardware or software, or connect to other computers.

1. ***Helps manage computer resources***

An operating system helps manage hardware. Programs communicate with the operating system to work with the required hardware, such as the CPU, to complete the required tasks.

1. ***Helps secure data by controlling user access to a computer***

An operating system allows you to secure your data. It helps you specify authentication and authorization rights to control access to your computer and its resources.

**Authentication** is the process by which the computer system validates a user's logon information. An operating system can help you create a username and a password, so that only those users who know the username and password can access the resources on your computer.

In addition, you can associate specific permissions to each username. This is called **authorization**. For example, you can prevent users from printing documents from your computer.

**Understanding the user interface**

Windows XP provides a GUI that has a number of components to help you interact with a computer. The following are the components of a Windows user interface:

**Desktop**

The desktop is an on-screen work area that uses a combination of menus and icons. The desktop includes the following components:

* Wallpaper is a pattern or picture on the screen background that you can choose. You can consider it as a tablecloth placed on a table.
* An icon is a small image displayed on the screen to represent an object. Icons help you perform certain computer actions without having to remember commands or type them. For example, you can click a file icon to open the file with the appropriate program.

**Taskbar**

The taskbar is a rectangular bar that is usually located at the bottom of the screen. You can use the taskbar to select a program running on your computer. The taskbar displays the programs in the form of taskbar buttons. The program displayed on the taskbar in the graphic is Word.

**Notification Area**

When the taskbar is located at the bottom of a screen, the notification area is located on the right side of the taskbar. The notification area displays the time, a volume icon, and icons of some programs running on a computer. For example, the printer shortcut icon appears after a document has been sent to the printer and disappears when the printing is complete.

**Start**

In Windows XP, the Start button opens the Start menu. You can use the commands on the Start menu to start a program, or to restart or shutdown the computer. The Start menu typically displays the following commands:

* **My Documents**: When you click My Documents on the Start menu, the contents in the My Documents folder appear in a rectangular area, called the window. The window displays two specialized folders, My Pictures and My Music. You can use the My Documents folder to share your documents and also keep private the documents you do not want to share.
* **My Computer**: When you click My Computer on the Start menu, the contents of your floppy disk, hard disk, CD-ROM drive, and network drives appear in a window. You can use the icons and menus in My Computer window to search for or open files and folders.
* **My Network Places**: When you click My Network Places on the Start menu, the My Network Places window appears. It provides a view of all the shared computers and other resources on the network to which your computer is connected.
* **Control Panel**: When you click Control Panel on the Start menu, the Control Panel window appears. It allows you to control the various aspects of the operating system or hardware, such as setting the system time and date, adding and removing programs, troubleshooting hardware and software, and setting keyboard characteristics.
* **Printers and Faxes**: When you click Printers and Faxes on the Start menu, the Printers and Faxes window appears. It allows you to install and share printing resources. After you install a printer, you can print documents from your computer.
* **Help and Support**: When you click Help and Support on the Start menu, the Help and Support Center window appears. You can use the Microsoft Help and Support Center whenever you have a question about the operating system. It is a comprehensive resource that helps you learn about Windows XP. You can use the Search or the Index feature to view all Windows Help resources, including those available on the Internet.
* **Search**: When you click Search on the Start menu, the Search window appears . It allows you to search for a file or a folder on your computer. In addition, if you are authorized to access other computers on your network, you can search files on those computers.
* **Run**: This allows you to start a program.

**Activity: Working with windows based program**

In Windows XP, a window is a rectangular area on the monitor that displays a program. Each program has its own window.

In this demonstration, you will see how to work with a Windows-based program.

The following table contains the steps and transcript of an online demonstration.

**Step List**

|  |  |
| --- | --- |
| **1** | Demonstration: Working with Windows-Based Programs |
| **2** | Click **Start**, point to **All Programs**, point to **Accessories**, and then click **Paint**. |
| **3** | Point to the title bar. |
| **4** | To move the Microsoft Paint window, drag the title bar. |
| **5** | Point to the menu bar. |
| **6** | Point to the toolbar. |
| **7** | Drag the horizontal scroll box and then drag the vertical scroll box. |
| **8** | To minimize the window, click the **Minimize** button. |
| **9** | To view the Microsoft Paint window, on the taskbar, click the **Microsoft Paint** button. |
| **10** | To maximize the window, click the **Maximize** button. |
| **11** | To restore the window to its original size, click the **Restore Down** button. |
| **12** | Move the mouse pointer to the corner of the Microsoft Paint window till the shape of the mouse pointer changes to a double-headed arrow. Drag the double-headed arrow to resize the window. |
| **13** | On the Microsoft Paint window, click the **Close** button. |

Diagram (Print Screen on XP 2003 desktop)

The Windows interface provides a combination of menus and icons that allow you to interact with a computer. You can use a mouse to make selections, and issue commands, such as opening a program. An example of a commonly used program is Microsoft Paint.

You can open the Microsoft Paint program from the Accessories menu. The Microsoft Paint program is displayed in a window.

A window has several parts that make it easy to control its appearance and operation. It has a title bar that contains the name of the window.

You can use the title bar to drag a window to any location on the screen. You release the mouse button when the window is at the desired place.

A window has a menu bar. A menu bar is a rectangular bar, usually at the top, in which you can select menus. These menus contain many commands to perform various functions in a program. For example, you can click the commands in the File menu to save a file or open a file.

A toolbar can be a horizontal or vertical block of on-screen buttons or icons. You can click these buttons or icons to give commands to the program.

You can drag a scroll box to move around in the program window. These scroll boxes are within scroll bars, which can be present both horizontally and vertically within a window.

You can click the Minimize button to remove the window from the screen and display the program as a button on the taskbar.

You can display the Microsoft Paint window by clicking the Microsoft Paint button on the taskbar.

You can click the Maximize button to expand the window so that it covers the entire screen. You will be able to view the document better.

After maximizing the window, the Maximize button becomes the Restore Down button. You can click the Restore Down button to return the window to its original size.

You can resize a window by moving the mouse pointer to a corner of the window. The mouse pointer will change its shape to a double-headed arrow. You can then resize the window by dragging the pointer. It is important to know that a maximized window cannot be resized.

The Close button terminates the program running in the window. In this demonstration, you learned about the different parts of a window.

**Managing files and folders**

Suppose you own a book shop. To manage it efficiently, you need to first categorize books based on their subject, such as management or fiction. You can then arrange these books in separate sections of a cabinet. You need to provide appropriate name to each section so that it is easier to locate a book. Similarly, in the Windows operating system, you use Windows Explorer to arrange files in appropriate folders. Windows Explorer is a program that helps you locate and open files and folders.

The Windows Explorer window is often divided into two sections, called **panes**. **The pane on the left side, called the Folders pane**, displays the structure of drives and folders on your computer. *A* ***folder*** *is a container for programs and files in GUI interfaces*. It is represented by an icon of a file folder on the screen. It can hold both files and additional folders. **The pane on the right is called the details pane**. It displays the contents of a drive or folder. You can select folders from the list displayed in the Folders pane to view its contents in the details pane.

In this exercise, you will explore how to manage files and folders by using Windows Explorer.

The following table contains the steps of an online simulation.

|  |
| --- |
| **Step 1**  The **Start** menu has been opened for you. To open Windows Explorer, point to **All Programs**, point to **Accessories**, and then click **Windows Explorer**. |
| **Step 2**  To expand a folder, click the plus sign next to the **Activities** folder. |
| **Step 3**  A folder can contain both files and subfolders. To view the contents of a folder, in the Folders pane, click the **Vacation** folder. |
| **Step 4**  To view detailed information of the contents in a folder, such as name, size, type, and date modified, click **View**, and then click **Details**. |
| **Step 5**  Click **File**, point to **New**, and then click **Folder**. |
| **Step 6**  To give the new folder a descriptive name, press SPACEBAR to have the folder name typed for you, and then press ENTER. |
| **Step 7**  To rename a folder, click the **Activities** folder. |
| **Step 8**  Click **File**, and then click **Rename**. |
| **Step 9**  To specify the new name, press SPACEBAR to have the folder name typed for you, and then press ENTER. |
| **Step 10**  To move a file to a new location, click the **Insurance Agency** file. |
| **Step 11**  Click **Edit**, and then click **Cut**. |
| **Step 12**  To select the Legal folder as the destination folder, in the Folders pane, click **Legal**. |
| **Step 13**  To move the file, click **Edit**, and then click **Paste**. |
| **Step 14**  To verify that the Insurance Agency file has been moved, click the **Volunteer Activities** folder. |
| **Step 15**  To copy a file, click the **Notes** file. |
| **Step 16**  Click **Edit**, and then click **Copy**. |
| **Step 17**  To select the Memos folder as the destination folder, click **Memos**. |
| **Step 18**  To copy the file, click **Edit**, and then click **Paste**. |
| **Step 19**  To delete the Draft Garden Report file from the Volunteer Activities folder, in the Folders pane, click **Volunteer Activities**. |
| **Step 20**  To delete a file from a folder, click **Draft Garden Report**, click **File**, and then click **Delete**. |
| **Step 21**  To confirm that you want to send the file to the Recycle Bin, in the **Confirm File Delete** box, click **Yes**. |

**Performing Basic File Operation**

Every file has an associated format that defines the way data is stored in the file. The file format is identified by a period (also called a dot) appended to a file name, followed by three or four letters. The following are some of the more common file formats:

* Word documents (.doc)
* Images (.gif and .jpg)
* Executable programs (.exe)
* Multimedia files (.wma and others)

When you open a file, the operating system selects an appropriate program to display the contents of the file based on the file format. For example, when you open a Word document, the operating system opens a word processor, such as Word, to display the contents of the document.

To understand this concept of performing basic file operations, consider a scenario. You want to create a document by using WordPad. You are new to the concept of files and want to know how to create and save the file in a specific location. You also want to know how to open or delete an existing file.

In this exercise, you will explore how to perform basic file operations.

The following table contains the steps of an online simulation.

|  |
| --- |
| **Step 1**  The **Start** menu has been opened for you. To open the WordPad program, point to **All Programs**, point to **Accessories**, and then click **WordPad**. |
| **Step 2**  To add text to the white screen, called the document window, press SPACEBAR. |
| **Step 3**  To save a document, click **File**, and then click **Save As**. |
| **Step 4**  To save the document in the Garden Company folder, double-click **Garden Company**. |
| **Step 5**  Click the **File name** box, and then press SPACEBAR to have the new name entered for you. |
| **Step 6**  To save the document, click **Save**. |
| **Step 7**  To close a file, click the **Close** button. |
| **Step 8**  You can open Windows Explorer to browse to the Flyers file. To open Windows Explorer, click **Start**, point to **All Programs**, point to **Accessories**, and then click **Windows Explorer**. |
| **Step 9**  To view the contents of the folder, in the Folders pane, click the **Garden Company** folder. |
| **Step 10**  To open the file, double-click **Flyers**. |
| **Step 11**  To close a file, click the **Close** button. |
| **Step 12**  To delete a file, click **Flyers**, click **File**, and then click **Delete**. |
| **Step 13**  To confirm that you want to send the file to the Recycle Bin, in the **Confirm File Delete** dialog box, click **Yes**. |
| **Step 14**  To close Windows Explorer, click the **Close** button. |
| **Step 15**  To begin restoring a file to its original location, double-click **Recycle Bin**. |
| **Step 16**  In the Recycle Bin window, click **Flyers** to select the file. |
| **Step 17**  To restore the file, click **File**, and then click **Restore**. |

**Lesson 5**

**Career Opportunities**

**Introduction**

Using computers is no longer restricted to any specific field of work. They are extensively used everywhere, from households to large businesses. This widespread use of computers has created many career opportunities. Depending on your field of interest and degree of knowledge about computers, you can select a job that matches your skills.

**Lesson Objectives**

After completing this lesson, you will be able to:

* Describe how computers have become a central part of our everyday life.
* Identify the different career opportunities available for a person who is computer literate

**Understanding the widespread reach of computers**

Computers are now being used extensively in business. You can use computers to maintain records, exchange information with people at distant locations, and analyze daily transactions to generate reports.

You can also use computers to buy or sell products over the Internet.

Computers can analyze your sales for the day to determine the products that have sold the most. As a result, you need not perform lengthy calculations to manually analyze your sales data.

With advancements in technology, electronic devices such as bar code scanners are now used in stores. Bar codes are printed black-and-white bars that contain information about a product, such as its price and product ID.

The bar code scanner, which is connected to a computer, reads the bar code and sends information to the computer.

The computer decodes the information and generates the invoice for the customer. You do not have to manually enter information in a computer to store sales information and generate the invoice. At the end of day, the computer can automatically analyze your sales data.

Computers can also be used for online transactions, such as selling products over the Internet. Customers can visit the Web sites of different stores to purchase products. They can pay for these products over the Internet, and the products can be delivered to their doorstep.

Traders can also use computers to check stock prices over the Internet. This helps them organize and manage investments.

**Career Opportunities in the IT world**

You can seek various job opportunities in the field of computers if you have relevant computer knowledge. Depending on your skills, you can work as an information worker, an IT professional, or a software developer.

An **information worker**, such as a data entry operator, a warehouse manager, or a travel agent, uses the computer to enter and maintain records. For example, a data entry operator can use the computer to create documents and maintain records. These records can be analyzed by the computer to generate reports.

A **warehouse manager** keeps an account of the warehouse stocks. With the help of a computer, the warehouse manager also plans the schedules and working hours for the people working in the warehouse.

**Travel agents** use computers to provide their customers with information on various holiday destinations, flight schedules, and details about a specific location. The details may range from information on the weather to hotel accommodations.

Travel agents can also provide information about the local tourist attractions and modes of transport. They also use computers to update travel plans and schedules.

You can also use your computer knowledge to work as an IT professional. Network administrators, graphic designers, and database administrators are some examples of IT professionals. **Network administrators** are responsible for managing a network and installing new devices on the network.

They also add and remove individuals from the list of authorized users. They archive files on a computer and administer access rights.

**Graphic designers** use computers to create graphics and animations for commercial purposes.

**Database administrators** work with databases to maintain and organize the information stored on a computer*. A database is an organized collection of information on a computer.*

Database administrators organize and manage the structure of database in a computer. They also decide who should be given access to which part of the database.

A **software developer** creates software for commercial purposes, such as managing the inventory for a small business or editing a media file. Similar to a software developer, a computer game designer creates games that can be played on computers.

**Glossary**

**Applications**

Applications, also called programs, use the platform to perform tasks.

**Authentication**

Authentication is the process by which the computer system validates a user's logon information.

**Authorization**

Authorization is the process by which the user can associate specific permissions to each username.

**Bit**

A bit is the smallest unit of information that a computer handles. A single bit can hold only one of two values, 0 or 1.

**Byte**

A byte is a combination of eight bits arranged in sequence.

**Central Processing Unit (CPU)**

The central processing unit (CPU) is the primary hardware device that interprets and runs the commands you give to the computer.

**Chat Program**

Chat programs allow you to send and receive messages instantly. You can use a chat program to communicate with several people at the same time.

**Commands**

A command is an instruction, which you give to a computer, that causes an action to be carried out. Commands are either typed by using a keyboard or are chosen from a menu.

**Communication Channel**

A communication channel is a path or a link that connects computers or peripheral devices, such as printers and disk drives, to transfer information.

**Communication Programs**

Communication programs are used by computers to exchange messages and files with other people in a digital format.

**CPU speed**

The CPU speed is the rate at which the CPU can perform a task, such as moving data to and from RAM, or performing a numerical calculation.

**Data**

Data is the plural for the Latin word *datum,* meaning an item of information.

**Database Programs**

Database programs are used to store and manage data in an organized way. You can also use these programs to sort or search for information stored in a database.

**Desktop**

The desktop is an on-screen work area that uses a combination of menus and icons.

**Desktop Computers**

Desktop computers are made up of individual components such as a monitor, a keyboard, a system unit, and a printer.

**E-mail**

An electronic mail (e-mail) is the electronic form of the traditional postal mail. E-mail allows you to exchange messages and files over a network.

**Folder**

A folder is a container for programs and files in GUI interfaces.

**Gigabyte**

One gigabyte (GB) is equal to 1,024 MB, which is approximately equal to one billion bytes.

**Graphical User Interface (GUI)**

A graphical user interface (GUI) displays images and pictures that allow a computer user to interact with a computer easily.

**Graphics Programs**

Graphics programs are used to create and edit drawings. You can also use these programs to enhance photographs.

**Handheld Computer**

Handheld computers are smaller than laptops computers and provide fewer features compared to than desktop computers or laptops computers. They are used for specific everyday tasks, such as managing personal data.

**Hardware**

Hardware refers to all the physical components of a computer.

**Icon**

An icon is a small image displayed on the screen to represent an object.

**Input Devices**

An input device is used to provide information to a computer. A keyboard is an example of an input device.

**Internet**

The Internet is a worldwide collection of public networks that are linked to each other for information exchange.

**Internet Service Provider (ISP)**

An ISP is a company that provides Internet connectivity to individuals, businesses, and organizations.

**Intranet**

An intranet is a special type of network used to communicate and share information within an organization.

**Kilobyte**

One kilobyte (KB) is equal to 1,024 bytes.

**Laptop Computers**

Laptop computers are lightweight and portable personal computers. Laptop computers are also called notebook computers.

**Local Area Network (LAN)**

A LAN connects devices within a limited area, such as a home or a small group of offices.

**Megabyte**

One megabyte (MB) is equal to 1,024 KB.

**Menu**

A menu is a list of options from which a user can select an option to perform a desired action, such as choosing a command or applying a particular format to part of a document. Many programs, especially those that offer a graphical interface, use menus as a means to provide the user with an easy-to-use alternative to memorizing program commands and their appropriate usage.

**Network**

A network is a group of computers that are connected to share resources and exchange information.

**Network Drives**

A network drive is a disk drive that is shared with other computers on a network.

**Notification Area**

The notification area is located on the right side of the taskbar when the taskbar is located at the bottom of a screen. The notification area displays the time, a volume icon, and icons of some programs that are running on a computer.

**Online**

When a computer is connected to the Internet, it is said to be online.

**Operating System**

The operating system controls the computer’s hardware and provides services and access to the hardware to programs. It also manages the computer’s operations and tasks, such as logging on, logging off, and shutting down.

**Platform**

The hardware and the operating system together are referred to as a platform.

**Presentation Programs**

Presentation programs are used to present information in the form of slides.

**Processing Devices**

Processing devices are used by computer users to process the input data and generate the desired output.

**Programs**

A program is a sequence of instructions that can be executed by a computer. A program is also known as software.

**Publishing Programs**

Publishing programs are used to combine text and graphics to create documents such as brochures, greeting cards, annual reports, books, or magazines.

**Server**

The server is the main computer on a network that provides services to other computers on the network. A server decides which computers are allowed to access the hardware and software on the network.

**Setup Wizard**

Setup wizards are provided by Windows XP. They guide the user through each step of a particular task, such installing hardware or software.

**Software**

Software is a sequence of instructions that a computer can execute. It is also referred to as programs.

**Spreadsheet Programs**

Spreadsheet programs are used to create budgets, manage accounts, perform mathematical calculations, and convert numerical data into charts and graphs.

**Storage Devices**

Storage devices are used to store data. A hard disk is an example of a storage device.

**System Unit**

A system unit refers to the box that holds the processor, motherboard, disk drives, power supply, and the expansion bus.

**Tablet Computer**

Tablet computers are computers that allow you to write directly on the screen by using a tablet pen.

**Taskbar**

The taskbar is a rectangular bar that is usually located at the bottom of the screen. You can use the taskbar to select a program running on your computer.

**Terabyte**

One terabyte is equal to 1,024 GB, approximately equal to trillion bytes.

**The Web**

The Web, also known as the World Wide Web (WWW), is a collection of information that is accessible on the Internet. This information is arranged logically and stored on computers known as Web servers.

**Wallpaper**

Wallpaper is a pattern or picture on the screen background that you can choose.

**Wide Area Network (WAN)**

A WAN is a network that connects devices in geographically separated areas.

**Window**

In Windows XP, a window is a rectangular area on the monitor that displays a program. Each program has its own window.

**Word-processing Programs**

Word-processing programs are used to create and modify text-based documents.

**Workstation**

A workstation refers to a computer connected to a network. You use a workstation to access the hardware and software on a network.